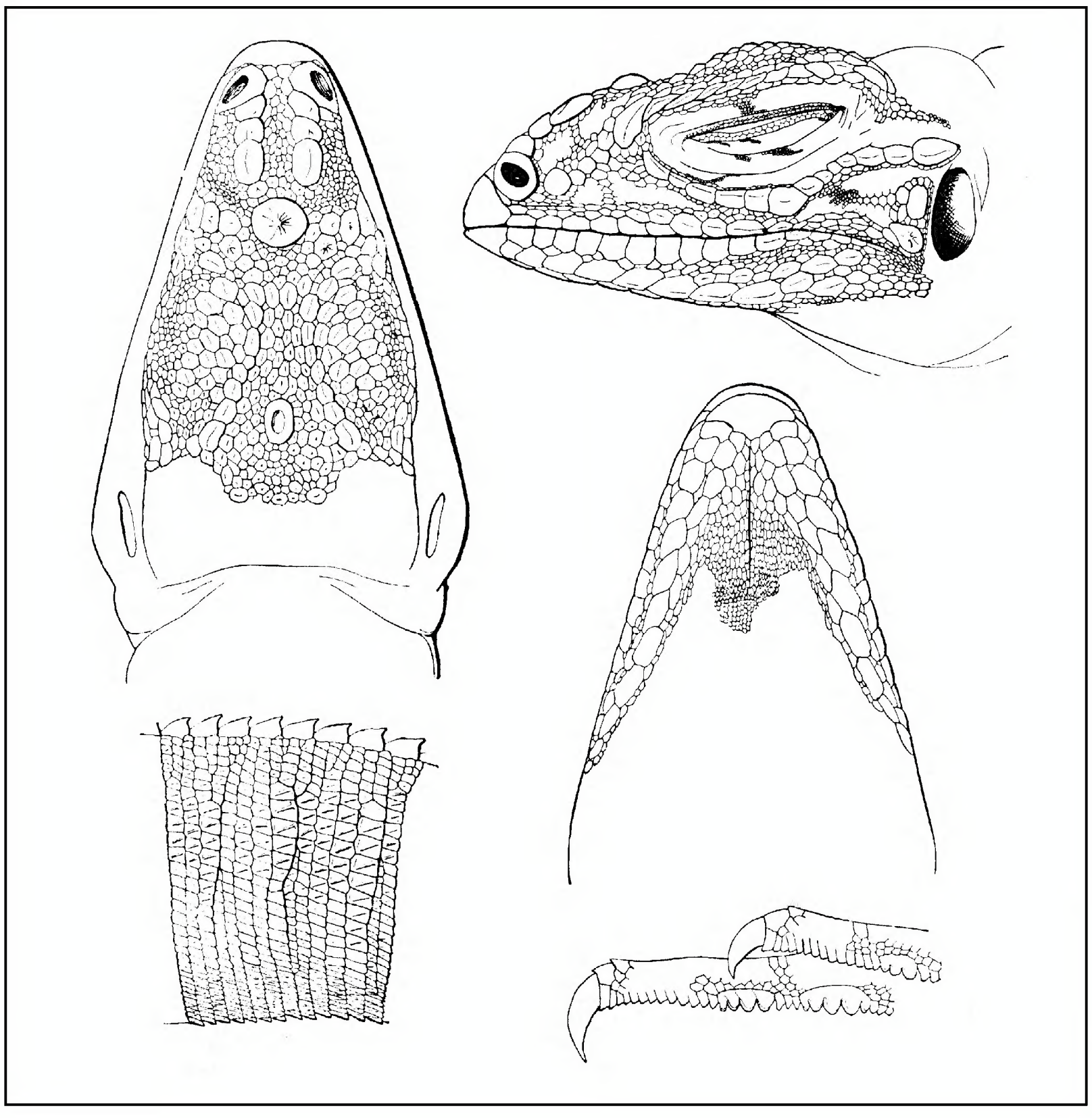
BULLETIN
of the
Chicago Herpetological Society

Volume 48, Number 5
May 2013



BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
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The *Bulletin of the Chicago Herpetological Society* (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.

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Bull. Chicago Herp. Soc. 48(5):65-66, 2013

Half-time Herping on One Big Prairie

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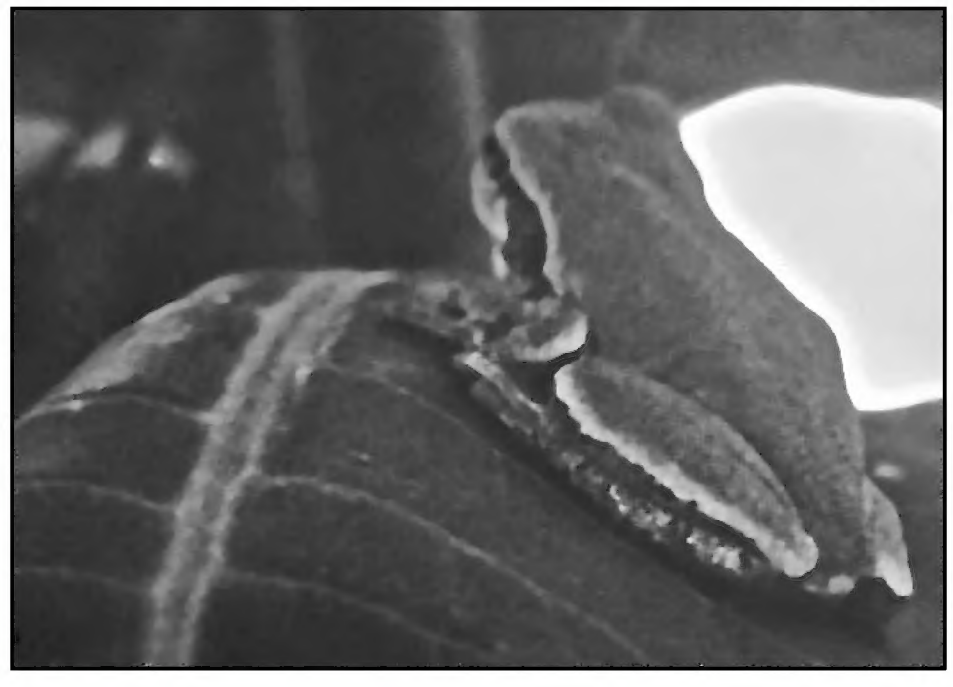
Konza Prairie Biological Station just a ten minute drive from Manhattan Kansas is a 3,487 hectare tallgrass prairie managed by Kansas State University. I was there to study the effects of fire on freshwater cordgrass (*Spartina pectinata*) dominated wetlands, and while I had this landscape available to me I spent countless hours on it from spring through fall and even some winter days. While my major focus was plants, I've always had an abiding interest in herps and on KPBS I found them or they found me.

Access to research sites is usually provided by wide and well mowed fire breaks that occur between all of the KPBS fire treatments. It wasn't uncommon to round a corner or crest a hill and find an ornate box turtle (*Terrapene ornata*) proceeding on the same trail headed towards me. But as I became more familiar with the wetlands, I found more turtles there. Particularly during summer heat I found turtles resting on cool moist marsh muck beneath low density cordgrass culms, reminding me of diamondback terrapins (*Malaclemys terrapin*) I had seen in the shadows of saltmarsh cordgrass from when I was a master's degree candidate on the Virginia Barrier Islands. Late on a very warm July evening I was walking by the margins of a wetland looking for any new or strange plant or animal phenomena when I noticed a tiny and bright red point of light emanating from the brown muck. On close inspection I saw that it was the reflection of sunset light on the eye of a box turtle intently fixed on me as it was buried up to its chin in the marsh.

Another herp I found in the cordgrass wetlands was Cope's gray treefrog (Heinrich and Kaufman, 1985). The seminal paper by Jaslow and Vogt (1977) suggests that Cope's gray treefrog (*Hyla chrysoscelis*) is the most likely candidate for open prairie habitat. I found the first frog by accident while I was sweep netting for insects associated with freshwater cordgrass and after sequentially releasing seven grasshoppers, I was surprised to find that what I thought was the eighth grasshopper had a recognizably vertebrate face. I almost wildly threw the net aside but fortunately realized it was the face of a treefrog. When I related this encounter to the K-State herpetological experts, I was surprised to hear them say that treefrogs didn't frequent the typically dry cordgrass wetlands and only ventured to open water to breed and otherwise foraged in the gallery forests on Konza. Despite those assurances I continued to find treefrogs in the wetlands most often on the broad leaves of common milkweed. Cope's gray treefrog is probably the only member of the genus *Hyla* to occur on Konza where it is near the western limit of its range (Hillis et al., 1987; Conant and Collins, 1991; Bartlett and Bartlett, 2006). Cope's gray treefrogs were only found in the *Spartina* wetlands in the spring, their appearance coincidental with the flowering period of common milkweed (*Asclepias syriaca*) a frequent plant in these wetlands. During their flowering period milkweeds attracted many different species of flies in fairly high numbers and those in turn attracted several kinds of spiders. This invertebrate diversity no doubt attracted the occasional Cope's gray treefrog (Freed, 1982).

Another and unique encounter with a Cope's gray treefrog occurred while I had my camera along on an investigation concerning a female jumping spider (*Phidippus princeps*) as possible mimic of milkweed flowers. I noticed a dark shape on a low and deeply shaded milkweed leaf that on closer inspection turned out to be another treefrog. What made this individual unique was that it was a very close approximation in both body coloration and pattern to a Pine Barrens treefrog (*Hyla andersonii*). While the resemblance to *Hyla andersonii* was uncanny, the frog was clearly a Cope's gray treefrog displaying tuberculate skin rather than the smooth skin associated with *H. andersonii* (Cope, 1889; Conant and Collins, 1991). Furthermore the pale margin along the lateral body and legs is rough rather than smooth as in *H. andersonii* and there is pale flecking on the hind foot not associated with *H. andersonii*. The dark coloration extending from nare through the eye and to the shoulder is either black or very dark gray while the same area on *H. andersonii* is purplish brown to lavender (Conant and Collins, 1991; Dickerson, 1906). Had Cope found this specimen, he would perhaps have considered it a distinct variety. He did name other varieties such as *H. versicolor phaeocrypta*, no longer recognized. This particular frog is likely far more distinct from the typical *H. chrysoscelis*.

In the wide expanses of the tallgrass prairie, snakes can be highly elusive. Typically I only heard a swishing sound through grass culms sometimes accompanied by the sight of a rapidly exiting length of snake. I found the best time to see relatively immobile red-sided garter snakes (*Thamnophis sirtalis parietalis*) was a narrow window of time in early spring very soon after a controlled burn. The first time I encountered one I walked past a large elevated burned off culm of big bluestem and a snake was there was just on the other side. We surprised



one another. Later in the season I might occasionally see a red-sided garter snake gliding apparently effortlessly through dense grass stands, and since I was upwind I could observe it for a while. Only once I saw an approximately 3-foot-long black rat snake (*Elaphe obsoleta obsoleta*) glide up a small conical hill just east of the *Spartina* wetlands.

I was with several other graduate students one October afternoon when one of them found a single lethargic specimen of a Texas horned lizard (*Phrynosoma cornutum*). It was by an abandoned limestone cistern once used as a cattle trough. The coloration of this lizard was an exact match for the limestone rim of the cistern and together with the shape and lethargy, the lizard matched the surrounding jagged limestone rocks that littered the uplands.

Several times I went to limestone and chert strewn uplands fields and I lifted slabs. Typically spaces under slabs were vacant. On one occasion I lifted a slab to find a western slender glass lizard (*Ophisaurus attenuatus attenuatus*) and twice found prairie ringneck snakes (*Diadophis punctatus arnyi*).

The most commanding herp I found while traversing the margins of a small stream on Konza searching for rare or unusual aquatic plants. In a wide bow of the stream I saw what appeared to be a small sand-colored boulder covered in long waving strands of green algae. I marveled at how this boulder seemed so round and smooth when I noticed that the head of the common snapping turtle was noticing me! This behemoth must have been nearly as long as the19 and 3/8 inch record described in Conant and Collins (1991).

Until I left Konza Prairie, I continued to occasionally find Cope's gray treefrogs in the wetlands despite the experts' dismissals. Though I found no additional treefrogs resembling *H. andersonii* in the *Spartina* wetlands, my small sample size with sporadic sampling does not preclude the existence of this hypothetical variety.

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Notes on the Herpetofauna of Western Mexico 8: Diet Items of the Zacatecas Night Lizard, *Xantusia sanchezi*, in an Oak Forest of Jalisco, Mexico

Daniel Cruz-Sáenz [1], José Luis Ortega de Santiago [2] and David Lazcano [3]

Abstract

As part of an investigation into the ecology and biology of *Xantusia sanchezi*, excreta were collected with the aim of studying the diet of the species. Samples were analyzed by identifying the structures useful for taxonomic determinations. We identified remains from four orders of insects. Within two of the orders we could identify the family and within one family we were able to distinguish six species.

Resumen

Como parte de una investigación sobre la ecología y biología de *Xantusia sanchezi* se realizó la colecta de excretas de estas lagartijas con la intención de conocer sobre los elementos que constituyen la dieta de esta especie. Se analizaron las muestras realizando la identificación de las estructuras para conocer a cual grupo de organismos pertenecen. Logrando identificar a cuatro ordenes, dos familias y seis especies de insectos.

Introduction

Determining the diet of a species yields important information about adaptations to its habitat that can be useful in management and conservation strategies for the species.

Brattstrom (1952) reported on the diet of species of night lizards (*Xantusia*) in the U.S. He found ants, beetles and spiders constitute the principal items in the diet of these species.

Lizards tend to be predominately insectivorous or herbivorous. The species eaten depend on the foraging behavior mode and can predict the relationships between the relative abundance of food items and a forager's selectivity (Stamps et al., 1981). Some lizards have adapted to eating ants (Smith, 1946; Pianka and Parker, 1975; Sherbrooke, 1981; Montanucci, 1989; Blackshear and Richerson, 1999).

Study site

With its topographic, orographic and climatic diversity, the state of Jalisco provides an extensive range of habitats that contribute to its rich biological diversity. The state harbors 13 different plant communities, with tropical deciduous forest (*bosque tropical caducifolio*) covering 19.6% of the surface area and oak forest (*bosque de encino*) covering 18% (Rzedowski and McVaugh, 1966; Flores-Villela and Gerez, 1994).

The evergreen oak forest community is composed of the following tree and shrub species: *Bursera multijuga* (elephant tree); *Bursera penicillata* (Indian-lavender); *Bursera kerberi*; *Vitex pyramidata* (*negrito*); *Quercus resinosa* (*encino bermejo*); *Quercus magnoliifolia* (*encino amarillo*), *Quercus subspathulata* (*encino mixcahue*); *Lysiloma acapulcense* (*huáyal*); *Leucaena macrophylla* (*guaje verde*); *Clethra rosei*.

The tropical deciduous forest community comprises the following species: *Bumelia persimilis* (*naranjillo*); *Bursera bipinnata* (*copal santo*); *Bursera copallifera* (*copal*); *Bursera grandifolia* (*palo mulato*); *Bursera kerberi*; *Bursera penicillata* (Indian-lavender); *Bursera schlechtendalii* (*copal negro*); *Ceiba aesculifolia* (*pochote*); *Euphorbia tanquahuete* (*mociño*); *Jatropha cordata* (*torato*); *Leucaena esculenta* (*guaje*); *Lysiloma acapulcense* (*huáyal*); *Pseudobombax palmeri*; *Sideroxylon capiri* (*danto amarillo*); *Stenocereus queretaroensis* (Querétaro tree cactus). Many of these plants have different common names depending on the location.

Huaxtla is located in northern Jalisco, UTM 667929, 2316292, at 1213 m above sea level. Situated within the municipality of Zapopan, 20 km northwest of the metropolitan area of Guadalajara, this site is accessed by the Federal Highway # 23 to Colotlán. Mountains here form part of Sierra de San Esteban; dominant vegetation is oak forest, with some patches of tropical deciduous forest on a few slopes and in ravines.

The fauna of Huaxtla comprises six species of amphibians and 20 species of reptiles (Cruz-Sáenz et al., 2008), 34 species of birds (Maya-Elizarrarás et al., 2008) and 20 species of mam-

Figure 1. Location of study site, Huaxtla, Zapopan, Jalisco, Mexico.

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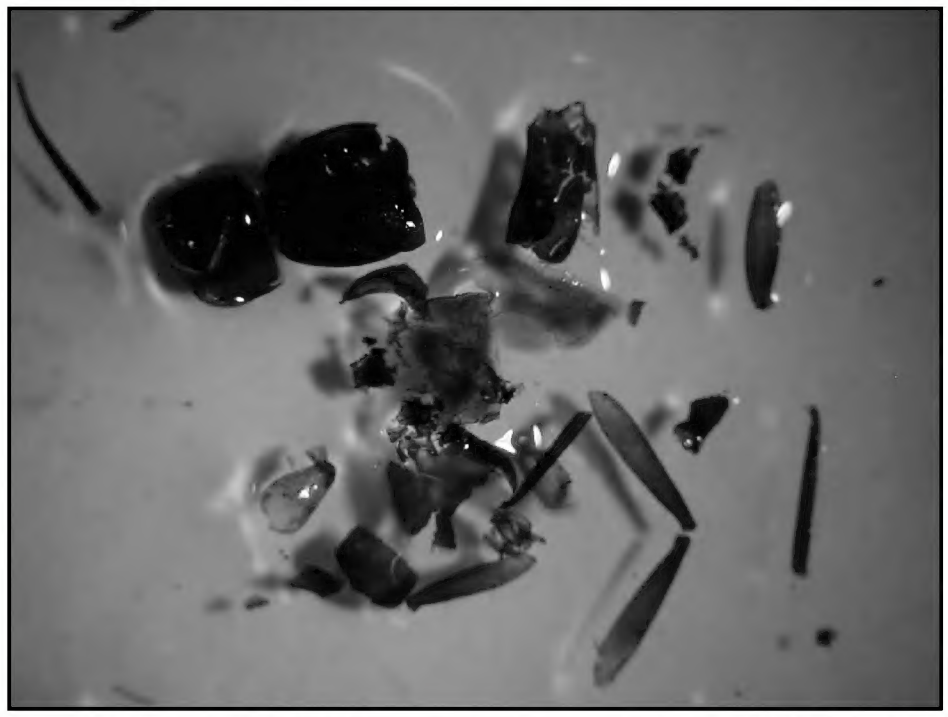

Figure 2. Parts of the head, mesosoma, legs and gaster of *Pheidole* sp.

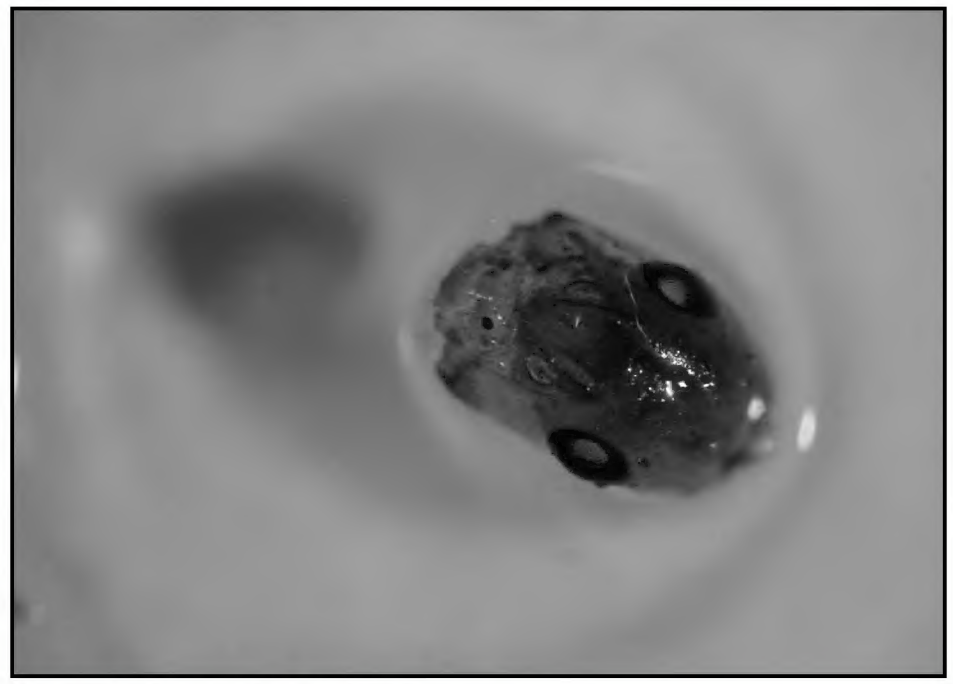

Figure 3. Head of *Pheidole* sp.

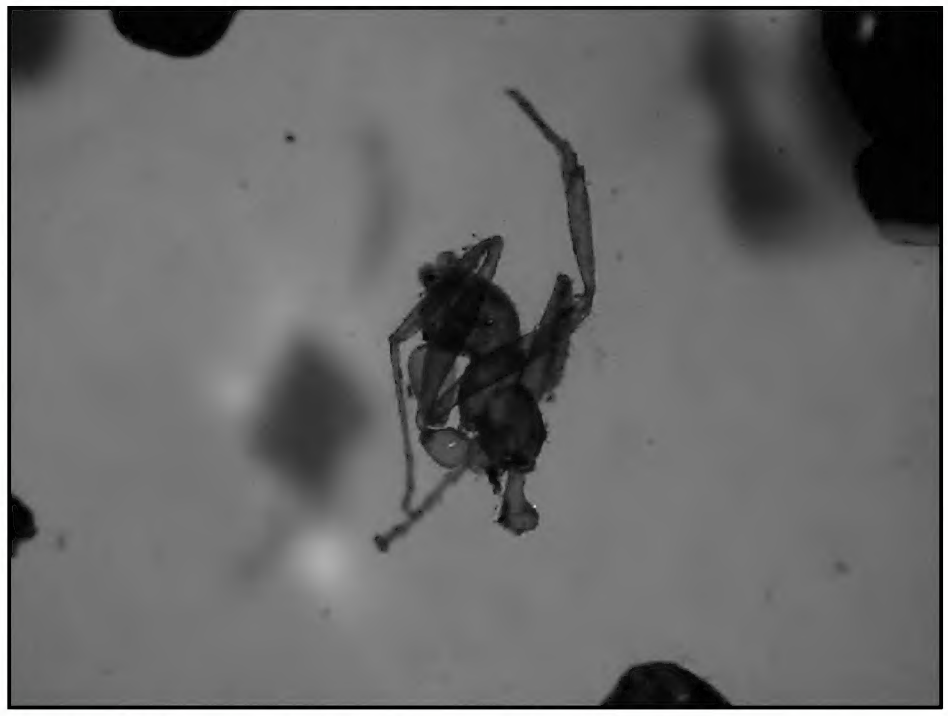

Figure 4. Mesosoma with legs and petiole of *Pheidole* sp.

Figure 5. A specimen of *Xantusia sanchezi* in a rock crevices area.

mals (Godínez-Navarro et al., 2008).

Materials and Methods

We collected 15 excreta from 15 individuals of *Xantusia sanchezi* inside the crevices they inhabit and stored them in plastic bags. In the laboratory identification of prey parts was conducted with the use of a Carl Zeiss Stereomicroscope Stemi DV4.

Results

The analysis of the samples identified four orders of insects. Within two of the orders we could identify the family. From within the order Hymenoptera we could distinguish six species of ants of the family Formicidae: three species of the subfamily Myrmicinae, genus *Pheidole*, and three species of the subfamily Formicinae, genus *Camponotus*.

Table 1. Insect taxa identified from samples of excreta of the Zacatecas night lizard, *Xantusia sanchezi*.

Order Hymenoptera	**Order Coleoptera**	**Order Orthoptera**	**Order Dermaptera**
Family Formicidae Subfamily Myrmicinae *Pheidole* sp. 1 *Pheidole* sp. 2 *Pheidole* sp. 3 Subfamily Formicinae *Camponotus* sp. 1 *Camponotus* sp. 2 *Camponotus* sp. 3		Family Gryllidae	

Table 2. Taxa and structures that determined the taxa.

Taxa	Structures
Coleoptera	Elytra
Camponotus sp. 1	Head and mesosome
Dermaptera	Head and thorax
Pheidole sp. 1	Mesosome
Pheidole sp. 2	Mesosome
Pheidole sp. 3	Mesosome
Gryllidae	Legs, wings and others
Coleoptera	Elytra and fragments
Camponotus sp. 2	Head and mesosome
Camponotus sp. 3	Fragments
Pheidole sp. 1	Mesosome, gaster and antenomeres
Coleoptera	Pronotum and elytra
Pheidole sp1	Mesosome, gaster and head
Coleoptera	Elytra
Orthoptera	Mandible
Pheidole sp.	Head and mesosome
Coleoptera	Elytra and fragments

We could not identify the fragments of some samples to species level because they were in an advanced state of digestion.

Conclusions

Night lizard species are extremely secretive. Although their elliptical pupils suggest that they are nocturnal, they are diurnal to crepuscular and seldom venture into the open. They forage slowly in and under ground litter, rock crevices or tree bark. Whether desert or forest inhabitants, all are probably sedentary and may have home ranges of only a few square meters. All are carnivores (= insectivorous) and consume a large variety of arthropods. There is slight variation among species.

Little is known of the biology and ecology of *Xantusia sanchezi*, but the available data are consistent with those on other xantusiids.

Here we document part of the diet of *Xantusia sanchezi*, which we found to feed on ants of the family Formicidae and on Coleoptera that could not be identified to family.

Our findings are limited to excreta from rock crevices. Perhaps individuals in bark crevices and other habitats prey on different insects. We hope to obtain an Extech Instruments Video Borescope Model BR200 to increase our number of samples. Night sampling is out of the question due to lack of security.

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Bull. Chicago Herp. Soc. 48(5):70-71, 2013

In fond remembrance of Ilene Sievert, who died December 16, 2012, this year we will reprint several of the essays that Ilene wrote for these pages between 1988 and 1993 under the rubric "Frog City." This one is from February 1990.

Frog City
by Ilene Sievert

V. A Green Thought: Part 1

The teacher called me at work. All mothers dread this call.

"The school nurse must talk to you about Carolyn."

"Mrs. Sievert, your daughter has been bitten on the lip; come pick her up."

Bitten? Bitten on the lip in an Evanston elementary school? Perhaps she encountered a precociously amorous but unskillful swain? No. She was bitten on the lip by a school pet, a green "chameleon," an anole.

Maternal brain waves performed figures unknown to mathematical description as I sought a productive approach to questioning the nurse.

"A chameleon is a tiny lizard, is it not?"

"Yes."

"I mean, really small, only two or so inches of body?"

"Yes."

"How did it get to her lip?"

"I was not present at the incident. The classroom teacher brought her in."

It is possible that a school nurse grows to be surprised at nothing and loses all curiosity about the bizarre and violent acts swirling about her.

"How much of a wound," I said slowly with careful enunciation and full stop after each word, "how much of a wound can a tiny lizard make on a human lip?"

"There is some blood and she cannot return to the classroom." A brusque quality invaded the previous flatness of her tone and she was not amused.

"Please put Carolyn on the phone if she is able to speak," I said.

"Mom?"

"How, pray tell, did a chameleon bite your lip?"

"Well, Mom...I was kissing it."

I briefly tried the nurse on returning the child to class or sending her home, just around the corner from the school. No on both --- some legal impediment involving school responsibility. Since the fastest immediate dash from downtown Chicago brought me back after 3 P.M., Carolyn sat in the nurse's office the remainder of the day with this instruction; to ponder her own reaction if a huge toothy lizard were to lift her face to its mouth. The nurse closed the conversation with stern advice: take her to the doctor ASAP. So, I drove home in a mixed state of comical anxiety. In imagination I saw my daughter in her garrulous old age, at the Safari Club, telling once again the adventure of how she got her lizard wound. Or she is on the table in the medical theater as a specialist points out green scaly excrescences to students of rare tropical disease. Perhaps this is the beginning of "The Little Green Reptiles" by Alfred Hitchcock, or a science fiction tale, "Revenge of the Reptoids." A headline screams, INNOCENT ADORABLE CHILD DIES OF HORRIBLE REPTILE MUTILATION WHILE SMIRKING MOTHER DELAYS MEDICAL AID. Well, maybe that's too long to actually scream.

When I finally got home there was a close inspection of the offended lip using flashlight and magnifying glass. All that could be found was a solitary red mark, a pin prick, that may or may not have been an anole bite. For lack of anything else to do, the pediatrician was called. Pediatricians, even more than school nurses, have learned not to be easily surprised. He cautiously, and without giggle or snort of any kind, recommended careful observation and bring her in if there is swelling.

Fortunately there was no swelling, pain, or green scaly rash, but we did manage a long discussion on loving lizards and being loved in return. Perhaps this was a good time for some reality training about animals. The child had an unclear distinction between her own feelings and those of creatures of another species. If she loves to squeeze a hamster it must love to be squeezed. She squeezed it no harder than she herself liked to be squeezed. And, since she loved the little green lizard, a kiss must be mutually agreeable. It was disturbing to think my own child might be an abuser of helpless animals.

Perhaps, I thought, a little observation of these anoles under proper care would help teach what sort of treatment truly made animals happy. How much, O Socrates, I do not know about what I do not know! A pre-parturient experience trying to make a domestic cat out of one stubborn specimen of *Mephitis mephitis* should have taught me wild animals are not easily molded to human expectation. Two infants later, I was not much wiser.

Green flesh is cheap. It's easy to buy a green anole; most pet stores have them any time of year. We put a few in a screen top aquarium with some sand, dead branches, and plastic plants. There was no water bowl and the cage was misted once or twice a day—a very dry environment. Some mealworms were put to petrify in a jar lid and an incandescent bulb was burned above for heat and additional desiccation. There may have been both sexes present but we saw no courtship, no eggs. Aside from some fighting of two individuals, they did nothing but sit, look ugly, and slowly dwindle. One by one they shriveled and died, starting with the chronic loser in the fight for top branch. It took a year, which was, for all we knew, a respectable anole life span.

It did not seem a happy year.

The child observed misery and ill-health, and so did I. We forgot about them for years, except, if someone casually expressed interest in acquiring a pet "chameleon" we said, Oh, they're not so easy to keep. Ours died.

Later one early spring we made the pilgrimage to Disney World in Florida. At a nearby tourist attraction featuring an alligator farm I escaped alone to a short hiking trail at the rear of their grounds. It was labeled "jungle walk." In addition to the delight of ditching my family and other tourists on this totally deserted path, there was hope of spying some interesting native plant material (bo-ring Mom). Actually, I'm so ignorant of native subtropicals that, truth to tell, it's happiness just to see something unfamiliar, something not hardy in the Midwest. Never mind if it came from further south or the Old World, an escaped cultivar or cross. Tickle me with tillandsias: mangle me with mangos.

Gazing in at bromeliads on mossy trunks my eye caught a small scampering movement. A rodent? No, it was green, a green lizard, an anole. This was as shocking as the first observation by a city kid of a cow actually being milked. Sure, they tell you milk comes from cows. Yeah, yeah. Actually it comes in plastic or waxed paper, or, in olden times, glass. It doesn't hit home till you see that milky udder. In the same fashion I knew that lizards actually lived in natural environments in the wild.

Down the vertical trunks that live green thing zipped in morse-code dashes and then it ran up a broad leaf of grass or sedge not six feet away. It was a wonder it didn't run into my wide open mouth. I could see the little toes overlapping the green blade. It was shimmering, glowing green, and it cocked one brave and brilliant eye at me. If you're hiding from the hot bright gaze of Judgment, look down and receive its reflected ray from the small eye of a lizard. Here is how little green lizards should be; bold yet wary against harm in the mixed daylight; blending color and form with leaves and grass. Is this the environment anoles prefer, moist earth and green vegetation, changing light and shadow? A jewel is finer in the setting for which it was designed. Please, please, I said to myself, try to remember this.

To be continued

INTERNATIONAL
HERPETOLOGICAL SYMPOSIUM

International Herpetological Symposium
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Bull. Chicago Herp. Soc. 48(5):72-73, 2013

What You Missed at the April Meeting

John Archer
j-archer@sbcglobal.net

Fifteen minutes into the presentation the screen froze. No amount of coaxing from the A/V gang made any difference and it looked as though Dan Krull would have to carry on without the aid of visuals. Which he did. He continued the talk with hardly a pause, throwing in a brief history of the other failures he'd experienced in the past. We eventually discovered the problem, or more correctly, Dan discovered the problem, and we were able to enjoy the rest of his talk as he had meant it to be experienced. It's no surprise that he handled it easily. Dan is an on-camera talent for Herp Nation Media (HerpNation.com) and hosts the Dan Krull Show on Herp Nation Radio. He's also a really good field herper and photographer, a captive breeder, environmental consultant, and videographer. His talk was titled "Citizen Science: A Volunteer Army."

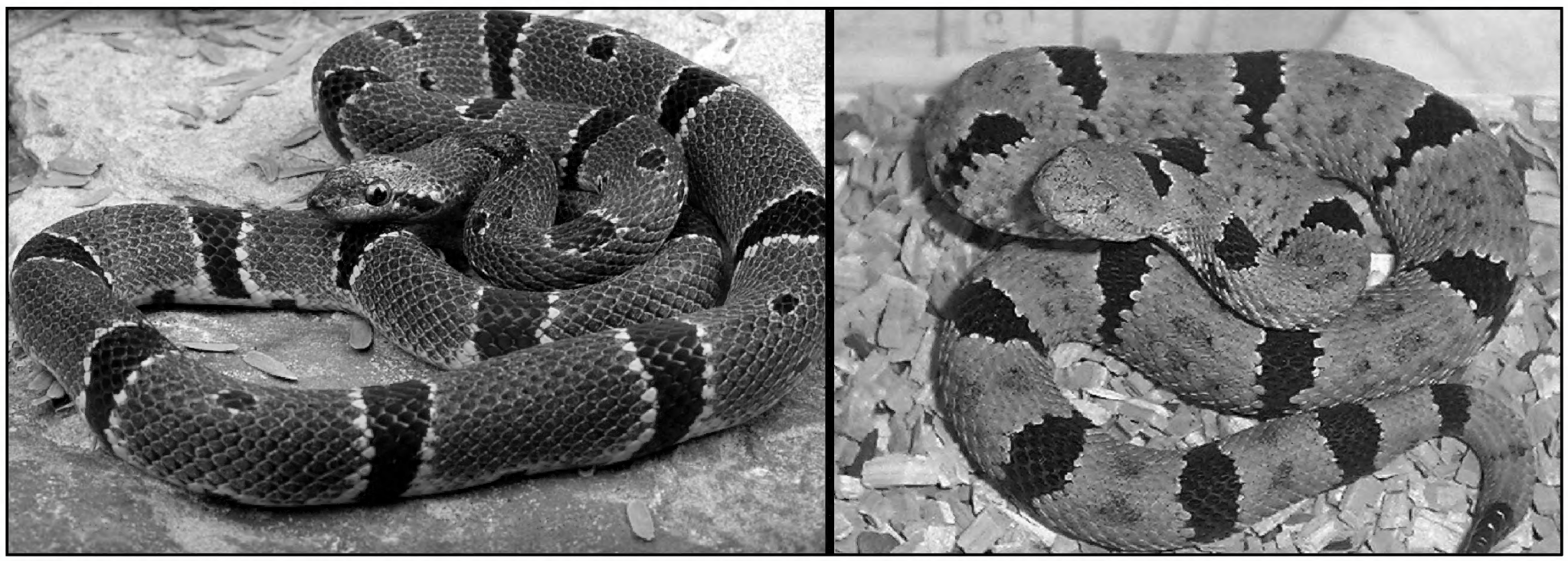
Dan Krull. Photograph by Dick Buchholz.

He first gave us a little history lesson. Side by side photographs of a coral snake next to a milksnake, a massasauga and western hognose, a bullsnake and rattlesnake, and a gray-banded kingsnake and rock rattlesnake were shown as he asked what we were looking at. Being a sharp audience, we answered Batesian mimicry. We saw a portrait of Henry Walter Bates flanked by *Heliconius* butterflies and their mimics, the animals that first led Bates to suggest that harmless species might mimic toxic or venomous species. We learned that when Bates arrived home after 11 years in the Amazon he had sent back over 14,712 species, 8,000 new to science. Dan related that Bates had no formal education, but studied and collected insects in his spare time. He supported his research in the Amazon by selling collected specimens to museums and individual collectors, a practice common in the 1800s. In spite of his extensive studies in the Amazon, Bates was not taken seriously by academics. He sold specimens, had no formal training, and frequently told the academics they were wrong, but gradually his views were accepted as they proved to be correct. Dan pointed out the huge gap in knowledge that lies between observing animals in the field and observing a preserved specimen scooped from a jar. And he asked, "What is the point of scientific discovery?"

His answer was we don't know what we don't know. To demonstrate that point, he showed a slide of a virus and proceeded to relate the tale of a mysterious disease that killed 45 people over three years in the Four Corners area of the southwestern U.S.

In 1993 the Centers for Disease Control and Prevention (CDC) sent a team to discover the nature of this disease. They discovered the virus was a hantavirus and a member of that team, Terry Yates, found the vector for the virus was *Peromyscus*. Hantavirus had been circulating in the rodent population for many years, but this was the first time the virus had infected humans. The CDC wanted to know what caused the sudden jump to humans. If this virus had recently mutated so that it was infectious to humans, the results could be catastrophic. Fortunately, the U.S. Fish and Wildlife Service had been doing long-term studies of the rodent population in that area, including collecting and preserving specimens. Dan wanted to stress that these studies had no immediate or obvious payback as they were being conducted, but by analyzing the virus in the preserved specimens, the CDC confirmed that the virus had not mutated. The outbreak among humans was linked to an increase in the population of the rodents and the resulting greater contact between humans and the mice, or more exactly, the waste products of the mice. As a result, protocols were established that drastically decreased the incidence of the disease. Dan emphasized that without the seemingly pointless study of the *Peromyscus* in the first place, the CDC would have had a much more difficult time fighting the disease.

A slide of Darwin appeared on the screen and Dan used Darwin to illustrate the driving force behind most scientists,



Lampropeltis alterna and *Crotalus lepidus*. One of Dan Krull's examples of Batesian mimicry. Photographs by Dan Krull.

One of Dan's favorite discoveries. A huge central plains milksnake, *Lampropeltis triangulum gentilis*, one of only five found in Grant County, Kansas. Photograph by Dan Krull.

curiosity. But more than curiosity is needed; money is needed. The researcher of today usually needs an upper level degree, institutional affiliation, and funding for research, collecting of specimens, running DNA tests, lab work, and assistants. And still be able to eat and pay personal bills. All of that requires money, and if one is not personally wealthy as was Darwin or able to sell specimens like Bates, one has to find funding for basic research. The National Science Foundation is responsible for approximately 20% of federal funding going to research conducted by colleges and universities. The next slide showed an array of corporate logos from oil companies to drug manufacturers. Dan asked what they all had in common. His answer, illustrated by a slide he swore was two dogs playing and only looking like they were viciously assaulting one another, was that they all "had a dog in the fight." They need predictable and profitable results on a "hot" topic that is germane to their mission. They are not interested in science for science's sake.

So Dan had given us strong examples of amateurs doing real science, the need for conducting research that has no apparent payback, and the lack of funding for that type of research. Where was he headed? Photos of Joe Collins appeared, followed by the opening slide of Dan's talk, showing a crowd of people. Joe Collins is a hero of Dan's. Joe founded the Kansas Herpetological Society in 1972 and throughout his life spread his interest in reptiles and amphibians by his writings, talks and enthusiastic involvement of people in his passion. Dan expanded the view again and again until the photo encompassed about a hundred people that were on the 2012 spring field trip of the Kansas Herpetological Society. The crowd was 80–95% laypersons of all ages. They were participating in one of the two or three field trips that the KHS sponsors each year targeting specific understudied areas and collecting thousands of data points that are evaluated by researchers and presented as papers in an annual meeting of the KHS. Researchers provide direction, targets, tools, and interpret the data. The amateur herpers pay for gas, lodging, and food, and collect data and specimens. One result, Dan asserts, is one of the best, most complete state field guides in the country: *Amphibians, Reptiles, and Turtles in Kansas*.

Since 1972 the KHS has been conducting these trips and Dan said that as a result, no other state's herp population has been as thoroughly studied as Kansas's. While Dan encouraged us to participate in the KHS trips, he gave us other ways to participate in citizen science, providing two examples of amateur herpers who were able to pursue projects that had real impacts. One even led to a job doing herp research in Guatemala.

The term citizen science seems to be mentioned more and more often by our speakers. Will Bird and Phil Peak, Gerry Salmon, Dusty Rhoads, and Jeff Lemm are just a few who have mentioned the importance of citizen scientists. Using amateurs as data collectors and contributors to research can provide additional resources for chronically underfunded amphibian and reptile studies. Dan admitted that some professionals will never accept amateurs into their projects, but emphasized that for those that do, the returns are often generous. And for the amateurs the rewards can also be great, such as access to restricted areas, interactions with protected animals, and the chance to make a difference. Professionals that need bodies and funding and herpers who enjoy working with the animals, seems as though that's a formula which can lead to everyone being happier. Dan's message: get out there and participate. You're needed.

Herpetology 2013

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

FLORIDA PINE SNAKE HABITAT USE

G. J. Miller et al. [2012, Copeia 2012(4):706:713] note that recent reports of declines in terrestrial snake populations in the southeastern U.S. have highlighted the need for life history information for these often cryptic animals. This study used radio-telemetry to describe home range size and habitat use of the Florida pine snake (*Pituophis melanoleucus mugitus*), a large fossorial species associated with the endangered longleaf pine (*Pinus palustris*) ecosystem. Florida pine snakes had large home ranges that varied in size among individuals (mean = 59.2 ± 50.8 ha, minimum convex polygon). There was no significant difference between mean annual home range size of males and females, but home range size differed significantly among seasons and between males and females by season. At the home range scale, Florida pine snakes selected natural pine forests and mature slash pine plantations, and they tended to use sites with shrubs and vines and very little bare ground at a local scale. As has been observed in other studies, Florida pine snakes were highly fossorial and they frequently sought shelter in Southeastern pocket gopher (*Geomys pinetus*) burrows. Snakes in this study rarely crossed paved or graded dirt roads; however, they frequently crossed low-use harrowed dirt roads. Collectively, these findings indicate that Florida pine snakes require large contiguous pine forests and that paved and graded roads may be significant barriers to their movement.

FEMALE PREFERENCES NOT CHANGED BY EARLY EXPERIENCES

B. Dawson and M. J. Ryan [2012, J. Herpetology 46(4):535-538] note that female mate choice preferences may be the result of innate factors, experience, or an interaction between the two mechanisms. Understanding the relative contribution and possible interaction between these mechanisms is important for identifying sources of variation in behaviors under sexual selection. This study evaluates the contribution of early experience on the development of mate choice preferences in Neotropical túngara frogs, *Physalaemus pustulosus*. Frogs were reared from tadpole stage through sexual maturity in four acoustic treatments: the first group heard a conspecific chorus of túngara frogs, the second group heard a heterospecific chorus of the closely related sympatric congener *P. enesefae*, the third group heard no frog sounds, and the fourth group heard only broadband white noise. At sexual maturity, the authors tested each female's preferences for conspecific complex vs simple calls and discrimination against calls of the sympatric congener. Female choices in all of these tests were consistent with those in previous studies of wild-caught and laboratory-reared specimens of this species. The acoustic rearing environments in this study did not alter the preferences of females for complex conspecific calls or the discrimination of females against the sympatric congener. This study supports the hypothesis that early experience does not alter the mate choice preferences of female *P. pustulosus*.

REED CANARYGRASS AND GARTERSNAKES

J. M. Kapfer et al. [2013, J. Herpetology 47(1):126-130] note that research that investigates the impact of invasive plants on reptiles, particularly snakes, is sparse. Butler's gartersnake (*Thamnophis butleri*) is a rare snake, endemic to the upper midwestern United States. Little research has focused on the habitat selection of this snake, which is often sympatric with the common gartersnake (*Thamnophis sirtalis*). The highly invasive wetland grass *Phalaris arundinacea* (reed canarygrass [RCG]) has become established or dominant throughout much of the geographic distributions of these snakes. The impacts of this invasive grass on the habitat selection of *T. butleri* and *T. sirtalis* have not previously been examined. During 2 yr of drift fence surveys at three survey sites and five habitats sampled in southeastern Wisconsin, the authors captured 243 adult *T. butleri* and 311 adult *T. sirtalis*. *Thamnophis sirtalis* was found more often in RCG than *T. butleri*, which appeared to have more specific habitat needs and most often occurred in upland habitats, particularly grassland, rather than wetlands. These findings have important regulatory and conservation implications for the globally rare *T. butleri*. For example, the data support the importance of upland habitat protection as part of conservation strategies for *T. butleri*. In addition, management of wetland habitat for this species must consider the impact of RCG and direct habitat restoration strategies accordingly.

HELLBENDER SHELTERS

C. R. Rossell, Jr., et al. [2013, J. Herpetology 47(1):66-70] investigated the attributes of shelters used by eastern hellbenders (*Cryptobranchus alleganiensis alleganiensis*) in two 500-m stretches of the French Broad River basin in North Carolina during June 2010. They quantified attributes at each hellbender shelter and at a corresponding unoccupied shelter located <25 m away to determine whether the attributes selected differed from those available in the surrounding environment. Forty-one hellbender shelters were identified, each occupied by a single animal. Hellbenders selected shelters that had larger cover rocks and deeper cavities than the unoccupied shelters. No other attributes differed between occupied and unoccupied shelters, and there were no significant relationships between total length of hellbenders and size of the cover rock or cavity depth. All hellbender shelters were formed by large rocks with flat bottoms. Most had a single entrance that was oriented downstream and a cavity floor consisting of sand and gravel. Shelters were generally located in shallow, fast-flowing water with <10% of their surface area embedded in the substrate. The results suggest that hellbenders prefer shelters with attributes that maximize cavity space. Larger cavities likely provide greater protection from predators and greater concealment from sunlight. In addition, larger cavities allow more space for hellbenders to rock back and forth to maximize oxygen uptake through their skin during periods of low flow when oxygen levels drop.

NOCTURNAL ACTIVITY IN RATSNAKES

J. H. Sperry et al. [2013, J. Herpetology 47(1):105-111] note that nocturnal activity is important for many animals, but difficulty in documenting that activity has hampered efforts to understand factors that influence when animals are active at night. Automated radiotelemetry was used to provide the first detailed tests of the hypothesis that the nocturnal activity of free-ranging snakes should be influenced by temperature, moon phase, and prey abundance. The study subjects were ratsnakes (*Pantherophis* spp.) from Texas and Illinois. The snakes exhibited some nocturnal behavior throughout their active season in both Texas and Illinois, although snakes were much more active at night in Texas than in Illinois. Texas snakes transitioned from primarily diurnal activity to primarily nocturnal activity over the snakes' active season, whereas Illinois snakes were always most active in the middle of the day. For both populations, nocturnal activity was positively related to temperature but unrelated to moon phase. Ratsnakes in Texas exhibited a stepwise increase in nocturnal activity in mid-summer, independent of temperature and coincident with the shift in their diet to almost exclusively mammals active at night. Given the ability of snakes in both populations to be active at night when temperatures allow, warming climates could lead to an increase in nocturnal activity, with consequences for both the snakes and the species on which they prey.

SIAMESE CROCODILES IN LAOS

M. R. Bezuijen et al. [2013, J. Herpetology 47(1):41-65] note that the Siamese crocodile (*Crocodylus siamensis*) is critically endangered and, until a decade ago, few remaining wild populations were known to exist. Described here are the first in-depth surveys for *C. siamensis* in Laos with new field data on ecology and conservation. Small breeding populations of *C. siamensis* are confirmed to persist in Laos. During surveys between 2003 and 2008, *C. siamensis* was recorded in 13 sites of six river systems, where at least 36 individuals (1–11 per site) were documented. In all sites, crocodile densities and recruitment rates were extremely low. Eight nests were recorded—among the first wild nests of *C. siamensis* to be reported. Perennial, thickly vegetated floodplain lakes are critical dry-season refugia and breeding habitats for *C. siamensis* in Laos. Opportunistic collection of crocodiles by local communities was observed, and at all sites there is increasing degradation of floodplain lakes for agriculture or economic development. National crocodile records were compiled and indicate that, historically, *C. siamensis* was widespread in lowland riverine and palustrine habitats of Laos, with most records from Central and South Laos in the Mekong Plain. These records also suggest that a severe range decline has occurred over the past century, although most wetlands remain unsurveyed for crocodiles. *Crocodylus siamensis* is probably now extirpated from the Lao Mekong and many other wetlands. Remnant *C. siamensis* populations in Laos are of global importance. All documented breeding sites, and most confirmed national records, are in rural lands outside the national protected area system, and conservation efforts will require community-based approaches.

NEW SPECIES OF GREEN PALM-PITVIPER

J. H. Townsend et al. [2013, ZooKeys 298:77–106. doi:10.3897/zookeys.298.4834] describe *Bothriechis guifarroi*, a new species of palm-pitviper from Refugio de Vida Silvestre Texíguat in northern Honduras. The new species differs from congeners by having 19 dorsal scale rows at midbody, a bright green dorsal coloration in adults, the prelacunal scale fused to the second supralabial, and in representing a northern lineage that is sister to *B. lateralis*, which is distributed in Costa Rica and western Panama and is isolated from the new taxon by the Nicaraguan Depression. This represents the 15th endemic species occurring in Refugio de Vida Silvestre Texíguat, one of the richest herpetofaunal sites in Honduras, itself being the country with the highest degree of herpetofaunal endemism in Central America. The new species is named in honor of Mario Guifarro, a Honduran conservationist slain in fighting against illegal logging, highlighting the sacrifices of rural activists in battling these issues and the critical importance of conservation in these areas.

TIMBER RATTLESNAKE DIGESTIVE PERFORMANCE

S. J. Beaupre and F. Zaidan III [2012, J. Herpetology 46(4):637-642] note that the analysis of mass and energy budgets provides critical insight for the modeling of both individual organisms and populations. Ectotherms in particular are closely tied to environmental variation because of thermal dependence of most physiological functions. The authors studied the effects of temperature on digestion and growth in 28 timber rattlesnakes (*Crotalus horridus*) from Arkansas, Mississippi and Virginia. They conducted feeding trials in environmental chambers in a repeated-measures design to analyze the effects of three trial temperatures (20, 25, and 30°C) on digestion and growth. No significant temperature effects were found on passage times (average 12.36 days), apparent digestibility (average 87.5%), or metabolizable energy (average 80.6%) across the 10°C temperature range. There was an apparent temperature-dependent trade-off in the allocation of mass and energy to growth in girth versus growth in length. Snakes allocated similarly to body mass at all three temperatures; however, growth in SVL increased significantly from 20°C to 30°C. These observations suggest that snakes at 20°C allocated to increases in girth, whereas snakes at 25°C and 30°C allocated increasingly to increases in body length. The authors estimated the metabolic cost of growth to be approximately 10.5 kJ g-1 dry mass (95 % CI: 6.8–14.1 kJ g-1 dry mass), which corresponds well with previous estimates in ectotherms.

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, PO Box 430, Newberry, FL 32669-0430, 352-472-9189, E-mail: GrmtRodent@aol.com.

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Summer Herpetological Field Classes: Research 4 Reptiles, LLC, has openings for ages 12 years to adult for herpetological field classes. Assist in real research studies and learn species identification, capture techniques, and data collection. All classes are limited to 8 individuals and are taught entirely outdoors at pond/prairie sites within Midewin National Tallgrass Prairie in Wilmington, Illinois. Registration details and class information can be found on our website at http://www.research4reptiles.biz. For questions, email Holly Zak at research4reptiles@comcast.net or call 630-337-0757.

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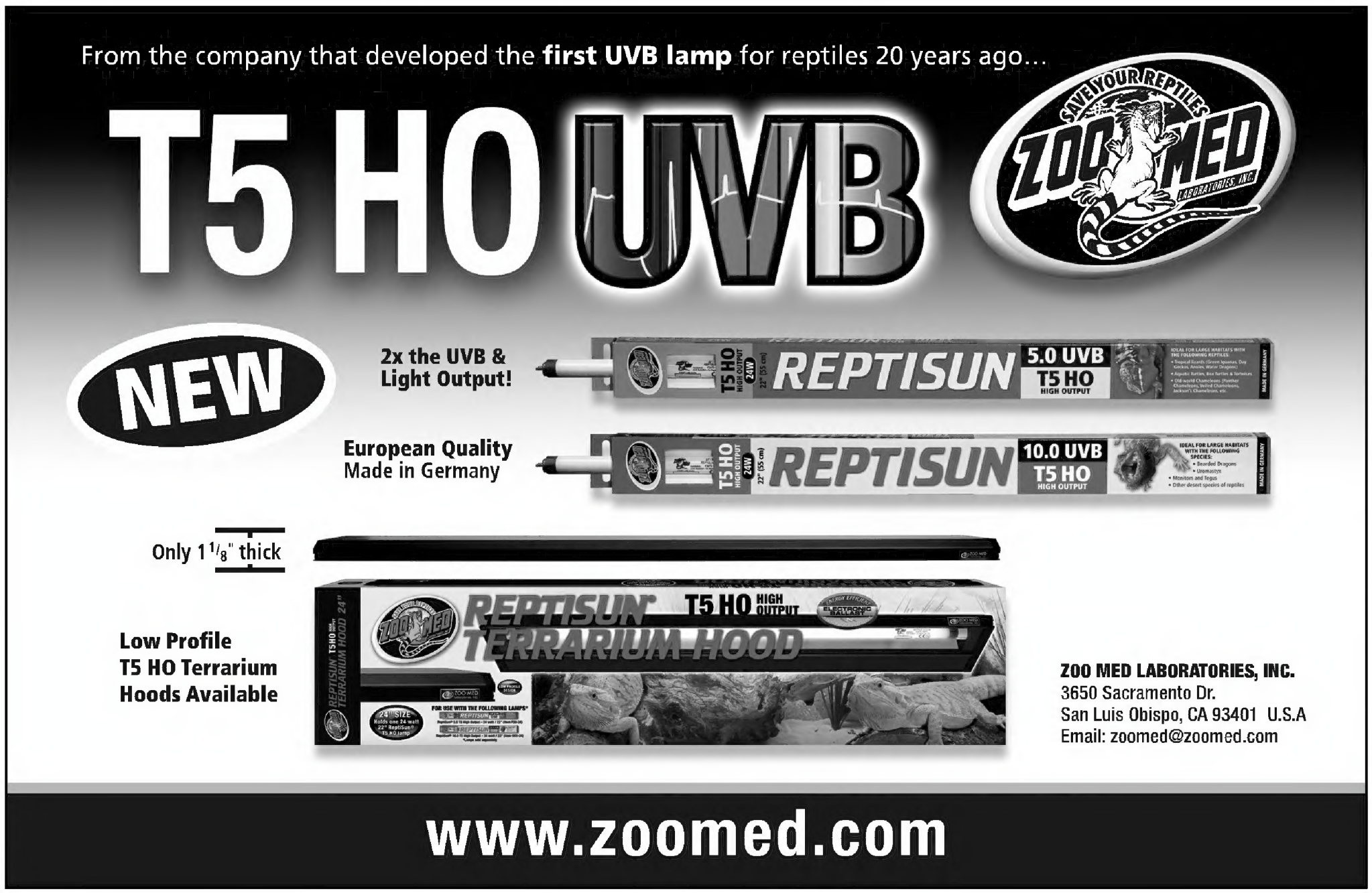
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UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, May 29, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. Our speaker will be **Russ Gurley**, the founder of the Turtle and Tortoise Preservation Group. Russ's talk will not be about chelonians this time, however, but on "Keeping and Breeding Tegus."

The June 26 meeting will be our popular and always well-attended annual **Show & Tell** meeting. Bring an animal that you find interesting for one reason or another and be prepared to give a short (under five minutes) presentation to the group. Don't be shy. Neither age (yours) nor commonness (the animal's) should be a limitation.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

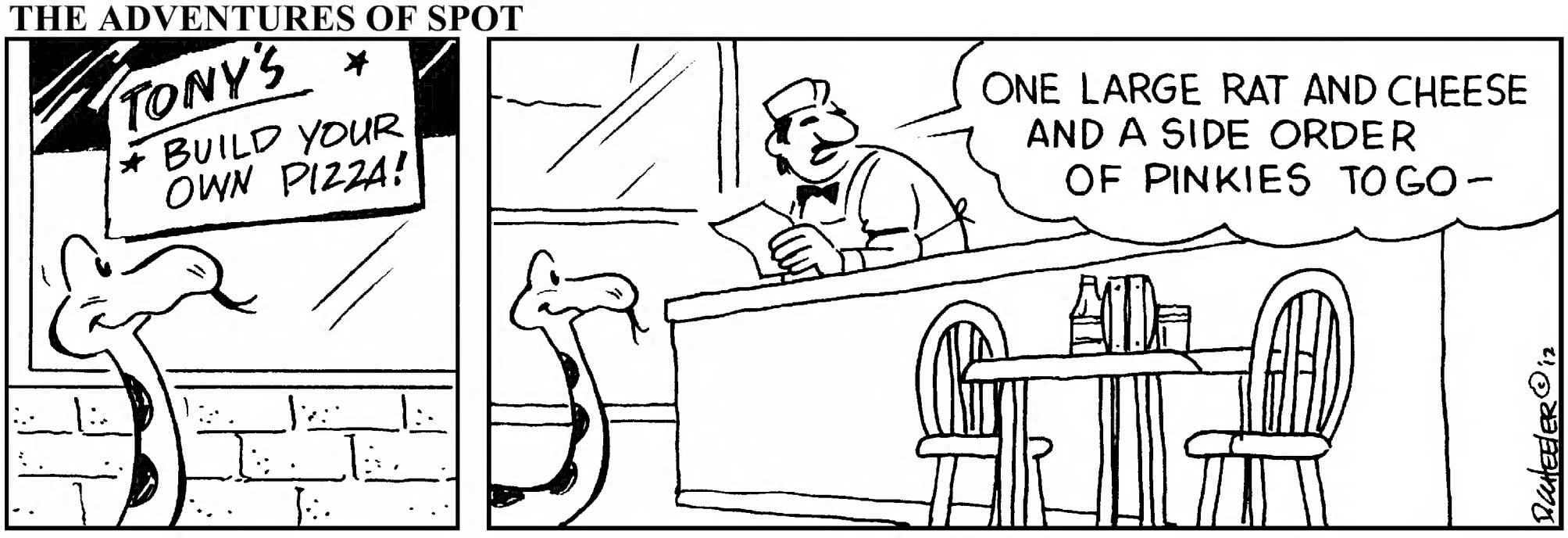
Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to be held at 7:30 P.M., June 14, in the adult meeting room on the second floor of the Schaumburg Township District Library, 130 S. Roselle Road, Schaumburg..

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info visit the group's Facebook page.

THE ADVENTURES OF SPOT



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